**PF - Lab - 06 - Hometask - Syed Taimoor Ali - 25K0096**

**Q1: Print all natural numbers in reverse (n to 1)**

**Algorithm:**

1. Start
2. Input n
3. Use a for loop from n down to 1
4. Print the current value each time
5. End

**Q2: Perform multiplication and division without \* and /**

**Algorithm:**

1. Start
2. Input two numbers a and b
3. Set result = 0
4. Use a for loop that runs b times
5. Add a to result each time (for multiplication)
6. For division, set count = 0
7. While a is greater or equal to b, subtract b from a and increase count
8. Print result as product and count as quotient
9. End

**Q3: Find sum of first and last digit**

**Algorithm:**

1. Start
2. Input number n
3. Set lastDigit = n % 10
4. While n is greater than 9, divide n by 10
5. Now n has only the first digit
6. Set sum = firstDigit + lastDigit
7. Print sum
8. End

**Q4: Check if number is prime**

**Algorithm:**

1. Start
2. Input number n
3. If n ≤ 1, print "Not prime" and stop
4. Set flag = 0
5. Use a for loop from 2 to n - 1
6. If n divided by loop value equals 0, set flag = 1
7. If flag = 0, print "Prime number"
8. Else print "Not prime"
9. End

**Q5: Generate Fibonacci series**

**Algorithm:**

1. Start
2. Input number of terms n
3. Set a = 0, b = 1
4. Print a and b
5. Use a for loop from 3 to n
6. Set next = a + b
7. Print next
8. Update a = b, b = next
9. End

**Q6: Check perfect number**

**Algorithm:**

1. Start
2. Input number n
3. Set sum = 0
4. Use a for loop from 1 to n/2
5. If n % i == 0, add i to sum
6. If sum == n, print "Perfect number"
7. Else print "Not perfect"
8. End

**Q7: Find factorial (repeat as long as user wants)**

**Algorithm:**

1. Start
2. Set choice = 'y'
3. Do
4. Input number n
5. Set fact = 1
6. Use a for loop from 1 to n
7. Multiply each number to fact
8. Print fact
9. Ask user "Do you want to continue?" and take input in choice
10. While choice == 'y'
11. End